IUCN Conservation Outlook Assessment 2014 **(archived)**
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Please note: this is an archived Conservation Outlook Assessment for Brazilian Atlantic Islands: Fernando de Noronha and Atol das Rocas Reserves. To access the most up-to-date Conservation Outlook Assessment for this site, please visit https://www.worldheritageoutlook.iucn.org.

Brazilian Atlantic Islands: Fernando de Noronha and Atol das Rocas Reserves

SITE INFORMATION

Country:
Brazil
Inscribed in: 2001
Criteria:
(vii) (ix) (x)

Site description:
Peaks of the Southern Atlantic submarine ridge form the Fernando de Noronha Archipelago and Rocas Atoll off the coast of Brazil. They represent a large proportion of the island surface of the South Atlantic and their rich waters are extremely important for the breeding and feeding of tuna, shark, turtle and marine mammals. The islands are home to the largest concentration of tropical seabirds in the Western Atlantic. Baia de Golfinhos has an exceptional population of resident dolphin and at low tide the Rocas Atoll provides a spectacular seascape of lagoons and tidal pools teeming with fish. © UNESCO

SUMMARY

2014 Conservation Outlook

Good with some concerns

While the general level of threat to the property is currently relatively low, investment in the property in terms of human and financial resources is insufficient to stop the very slow deterioration of the property's values from inappropriate tourism development and associated urban growth and displacement of terrestrial species on Fernando de Noronha, and illegal fishing and oil spills in the marine environment. While there is little evidence of impact from climate change until now, increases in sea temperatures, oceanic acidification, and sea-level rise could cause significant impacts in the future.

Current state and trend of VALUES

Low Concern
Trend: Data Deficient

Marine ecological processes within the site have until now been relatively unaffected by humans, though climate change may have major impacts in the future. There is a long history of major human impacts on terrestrial ecosystem processes on Fernando de Noronha since the 19th century, but little impact on the Atol das Rocas. Industrial fishing in the vicinity of the site is, however, impacting on pelagic species in general and sharks in particular, causing a potentially significant impact on the marine ecosystem stability of the site.

Overall THREATS

High Threat

The most serious threats to the site's values at present are from tourism and the displacement of native terrestrial species on Fernando de Noronha. Urban growth on Fernando de Noronha and illegal fishing also threaten the site's values, but at a lower level of intensity. Climate change is expected to have an impact on the site in the future because of sea temperature increases, ocean acidification, and

sea-level rise.

Overall PROTECTION and MANAGEMENT

Some Concern

A lack of financial and human resources has hampered the implementation of the management plans for the site, especially with respect to law enforcement, monitoring, and environmental education.

FULL ASSESSMENT

Description of values

Values

World Heritage values

- **Spectacular seascape and the highest known population of resident dolphins**
  Criterion:(vii)

  Baía dos Golfinhos is the only know place in the world with such a high population of resident dolphins and Atoll das Rocas demonstrates a spectacular seascape at low tide when the exposed reef surrounding shallow lagoons and tidal pools forms a natural aquarium. Both sites have also exceptional submarine landscapes that have been recognised worldwide by a number of specialised diving literatures. (Justification for inscription, 2001, WHC website)

- **A key role in the process of reproduction, dispersal and colonisation by marine organisms in the entire Tropical South Atlantic**
  Criterion:(ix)

  Fernando de Noronha and Atol das Rocas Reserves (FNNMP/AdRBR) represents over half the insular coastal waters of the Southern Atlantic Ocean. These highly productive waters provide feeding ground for species such as tuna, billfish, cetaceans, sharks, and marine turtles as they migrate to the Eastern Atlantic coast of Africa. An oasis of marine life in relatively barren, open ocean, the islands play a key role in the process of reproduction, dispersal and colonisation by marine organisms in the entire Tropical South Atlantic. (Justification for inscription, 2001, World Heritage

Center website)

▶ **Biodiversity and endangered species of Southern Atlantic**
Criterion:(x)

FNNMP/AdRBR is a key site for the protection of biodiversity and endangered species in the Southern Atlantic. Providing a large proportion of the insular habitat of the South Atlantic, the site is a repository for the maintenance of marine biodiversity at the ocean basin level. It is important for the conservation of endangered and threatened species of marine turtles, particularly the hawksbill turtle. The site accommodates the largest concentration of tropical seabirds to be found in the Western Atlantic Ocean, and is a Global Centre of Bird Endemism. The site also contains the only remaining sample of the Insular Atlantic Forest and the only oceanic mangrove in the South Atlantic region. (Justification for inscription, 2001, World Heritage Website)

Other important biodiversity values

▶ **Other international designations**

The site lies within a WWF Global 200 Eco-region and a BirdLife-designated Endemic Bird Area. (UNEP-WCMC, 2011)

Assessment information

Threats

Current Threats
Low Threat

The most serious threats to the site’s values at present are from tourism and the displacement of native terrestrial species on Fernando de Noronha. Urban growth on Fernando de Noronha and illegal fishing also threaten the site’s

values, but at a lower level of intensity.

► Oil/ Gas exploration/development

Low Threat
Inside site

This is a product of leaks and the pumping of bilges of passenger ships and fishing vessels; and the handling of fuels and oils in the harbor (ICMBio,2011b). The regular landing of fuel for the electricity plant in Fernando de Noronha poses further risks.

► Tourism/ visitors/ recreation

High Threat
Inside site

Inappropriate tourism development has led to the degradation of both the marine environment (physical damage by anchors, novice divers, beach goers, harbors, and sewage) and to coastal and terrestrial environments (fauna disturbance, construction of infrastructure, introduction of exotic species, collection of fauna as souvenirs, trampling of vegetation, and damaging of scenic values) (ICMBio,2011b; UNEP-WCMC, 2011; de Fretias Prazeres, 2011).

► Invasive Non-Native/ Alien Species

High Threat
Inside site

Clearing of vegetation and introduced species have had a significant impact within the site on Fernando de Noronha (ICMBio,2011b; UNEP-WCMC, 2011)

► Fishing / Harvesting Aquatic Resources

High Threat
Inside site

This includes commercial fishing in no take zones, and artisanal spear and blast fishing in coral communities. (ICMBio,2011b; UNEP-WCMC, 2011). Fishing has significant negative impacts on pelagic species, in particular sharks. Enforcement of fishing regulations is insufficient, both at Fernando de Noronha and Atol das Rocas (IUCN Consultation, 2014).

► Other

High Threat
Inside site

Urban development has led to the dumping of solid and liquid wastes, disturbance and displacement of native species, seabird collisions with aircraft; and the degradation of scenic values (ICMBio,2011b; WDPA, 2011). Coral mortality has been identified in the southwestern and northeastern ends of the north shore of Fernando de Noronha and is associated with the harbor (northeast) and sewage outfall (southwest) (de Fretias Prazeres, 2011). Urban growth is poorly regulated.

Potential Threats

High Threat

To date, there is little evidence of climate change impacting the site’s marine environment, but sea temperature increases, oceanic acidification, and sea-level rise are expected to impact the site in the future.

► Temperature changes

High Threat
Inside site
Outside site

Climate change is causing sea temperature increases and ocean acidification, which leads to mortality of oceanic calcifying organisms (ICMBio, 2011b; WDPA, 2011). However, the precipitous decline of coral cover, well documented in the Caribbean, has not yet been observed in the site (Barbosa et al, 2012; de Freitas Prazeres, 2011). Sea-level rise caused by climate change will impact low-lying Atol das Rocas.

Protection and management

Assessing Protection and Management

► Integration into regional and national planning systems

Some Concern

An overall framework for integration into national and state protected areas systems and tourism development activities exists (ICMBio, 2011b). However, in practice comprehensive integrated management could be improved (IUCN Consultation, 2014)

► Implementation of Committee decisions and recommendations

Data Deficient

No Committee decisions have been taken since inscription of the property.

► Boundaries

Mostly Effective

At the time of inscription the boundaries of the property were considered “adequate for conserving marine biodiversity” (IUCN Evaluation, 2011). It was also noted that all key terrestrial habitats were included in the property. However, some concerns exist about the awareness among the local population about the World Heritage status of the property and its boundaries (IUCN Consultation, 2014).

► Sustainable finance

Some Concern

While 70% of the entrance fees go back to management of the park, finance is inadequate to manage the site as outlined in the management plans (ICMBio, 2012).

► Staff training and development

Data Deficient

DD

► Sustainable use

Data Deficient

DD

► Relationships with local people

Mostly Effective

Tensions between tourism and conservation sometimes lead to major differences, but these differences are worked out in the National Park Consultative Committee, and as part of the participatory process for the development of the property's management plan (ICMBio, 2011).

► Legal framework and enforcement

Serious Concern

The Atol das Rocas Marine Protected Area was established in 1979 and later redesignated as the first National Biological Marine Reserve. In 1988 the Fernando de Noronha Marine National Park was created by Federal Decree 96.693 and in 1989 the entire archipelago and surrounding waters were declared an Environmental Protection Area of the state of Pernambuco by State Decree 13555 which forms the legal basis for the buffer zone around the Marine National Park. Law enforcement is incipient, hampered by lack of resources (IBAMA, 2006). Fernando de Noronha National Park, Rocas Biological Reserve and the surrounding Environmental Protection Area are all seriously understaffed and underfunded which hampers efficient law enforcement (IUCN Consultation, 2014).

► Education and interpretation programs

Some Concern

Sporadic educational activities are carried out, but financing is insufficient to fully implement the environmental education program outlined in the management plan (ICMBio, 2011a; ICMBio 2011,b; ICMBio, 2011c; ICMBio 2008, IBAMA, 2006). The awareness among local people of the World Heritage status of the property is very low (IUCN Consultation, 2014).

► Tourism and interpretation

Some Concern

There is a good network of trails with well trained local guides and there are

riding, fishing and boat rides. Dolphin viewing is very popular. There is concern, however, that the mass tourism model that has developed on Fernando de Noronha is inappropriate, and that an eco-tourism model is needed to assure conservation of the property's OUV(ICMBio, 2011a; ICMBio 2011,b; ICMBio, 2011c). The National Park has an interpretive centre at its headquarters where environmental education talks are given several evenings a week (UNEP-WCMC, 2011). Carrying capacity in land and marine areas must be reviewed/updated.

► Monitoring

Some Concern

A comprehensive monitoring system has not been developed for the entire World Heritage site. However, the Brazilian National Reef Monitoring Program has monitored coral coverage and condition in the property since 2002 (Rodriguez-Ramiriz, et al, 2008). Plans are underway for development of a specific monitoring system for recreational diving in order to reduce damage to coral communities (Luiz, 2012).

► Management effectiveness

Some Concern

Despite some existing threats, the component protected areas of this site appear to be relatively well protected (IUCN Consultation, 2014). However, financial and human resources are insufficient to fully implement the management plans.

► Research

Highly Effective

Since the 1970s, the Federal government has organised scientific expeditions and research today is regularly conducted, particularly into spinner dolphin (Project GOLFINHO ROTADOR) and nesting marine turtle populations (Project TAMAR) on Fernando de Noronha, where the main nesting beaches of the green turtle have monitored since 1987. These projects are however highly dependent on external funding from PETROBRAS National Oil Company and other sources. On the Atol das Rocas regular studies have been conducted since 1990 on migratory and resident seabirds, as well as on migrating hawksbill turtles, fish, crustaceans, coralline algae and benthic organisms.

(WDPA, 2011). Long term research on reef fishes has received more attention in the recent years, as a means for evaluating overfishing effects and for comparing pristine vs coastal areas under urban impacts (MCTI/CNPq 2012). Research facilities have been developed on Fernando de Noronha (TAMAR Project since 1984), Atol das Rocas.(University of North Rio Grande since 1991), and in the Sao Pedro e Sao Paulo Archipelago (since 1998) (ICMBio, 2011b).

► Management system

Some Concern

The Fernando de Noronha Archipelago National Marine Park, the Atol das Rocas Marine Biological Reserve and the Environmental Protection Area (APA) are administered by the Chico Mendes Biodiversity Conservation Institute (ICMBio). Management Plans were prepared by ICMBio for the Atol das Rocas Marine Biological Reserve in 2007 and for the Fernando de Noronha APA and National Marine Park in 2011. These plans guide management and conservation, and regulate boating and diving. Local artisanal fishermen are licensed to fish in the Fernando de Noronha Archipelago Marine Park. All fishing is prohibited in the Atol das Rocas Marine Biological Reserve. Migration to Fernando de Noronha is controlled at present levels and limited to relatives of the islanders. (UNEP-WCMC, 2011; ICMBio 2011b). Enforcement of the no take zone around the Atol das Rocas was strengthened in 1991 when a research station was established, however enforcement is still insufficient. A lack of human and financial resources has severely limited implementation of the management plans (ICMBio, 2008, ICMBio, 2011a; ICMBio 2011,b; ICMBio, 2011c)

Overall assessment of protection and management

Some Concern

A lack of financial and human resources has hampered the implementation of the management plans for the site, especially with respect to law enforcement, monitoring, and environmental education.

► Assessment of the effectiveness of protection and management in

addressing threats outside the site

Some Concern

Threats originating outside the property include inappropriate tourism development, urban growth in the town of Vila dos Remedios on Fernando de Noronha, and climate change. Environmental impacts from cruise tourism need to be more investigated.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Spectacular seascape and the highest known population of resident dolphins

Low Concern
Trend:Stable

Site’s scenic values and values associated with outstanding natural phenomenon have been relatively well preserved. Although spinner dolphins are still present in high numbers, there has been distribution changes noted which could be at least partially attributed to tourism pressure (IUCN Consultation, 2014).

► A key role in the process of reproduction, dispersal and colonisation by marine organisms in the entire Tropical South Atlantic

Low Concern
Trend:Stable

Marine ecological processes within the site have until now been relatively unaffected by humans, though climate change may have major impacts in the future. There is a long history of major human impacts on terrestrial ecosystem processes on Fernando de Noronha since the 19th century, but little impact on the Atol das Rocas.

► Biodiversity and endangered species of Southern Atlantic

High Concern
Trend:Stable

While populations of many species remain stable, poorly controlled fishing in the vicinity of the site might be having significant impacts on the shark population (IUCN Consultation, 2014).

Other important biodiversity values

► Other international designations

The site lies within a WWF Global 200 Eco-region and a BirdLife-designated Endemic Bird Area. (UNEP-WCMC, 2011)

Summary of the Values

► Assessment of the current state and trend of World Heritage values

Low Concern

Trend: Data Deficient

Marine ecological processes within the site have until now been relatively unaffected by humans, though climate change may have major impacts in the future. There is a long history of major human impacts on terrestrial ecosystem processes on Fernando de Noronha since the 19th century, but little impact on the Atol das Rocas. Industrial fishing in the vicinity of the site is, however, impacting on pelagic species in general and sharks in particular, causing a potentially significant impact on the marine ecosystem stability of the site.

► Assessment of the current state and trend of other important biodiversity values

Low Concern

Trend: Stable

The status and trends of other biodiversity values associated with the WWF Global 200 Eco-region and a BirdLife-designated Endemic Bird Area designations are the same as for World Heritage Values.

Additional information

Key conservation issues

▶ Inappropriate tourism

Local

Inappropriate tourism development and associated urban growth threatens marine and terrestrial environments on Fernando de Noronha.

▶ Climate change

Global

While there is little evidence of impacts from climate change at present, projected increases in sea temperatures, oceanic acidification, and sea-level rise may have impacts on property’s world heritage values in the future.

▶ Industrial fishing

Local

Industrial fishing is depleting pelagic species in general and sharks in particular, causing a potentially significant impact on the marine ecosystem stability of the site.

Benefits

Understanding Benefits

▶ Outdoor recreation and tourism

Tourism is the driver of the economy of Fernando de Noronha.

Summary of benefits

At the national and global level, conservation is the main benefit of the

property, while on the island of Fernando de Noronha, tourism is considered the main benefit of the property.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Reef Check Brazil		RC Brazil has just received funding from PROBIO, a division of the Brazilian Ministry of Environment, to monitor the 3,000 km of reef along the Northeastern coast. Four pilot locations have been selected: Abrolhos Reef, Fernando de Noronha Archipelago, the Coral Coast MPA and the Maracajaú Reefs.
2	Brazilian National Coral Reef Monitoring Program		Started in 2002, and includes all major reef areas in Brazil, including Fernado de Noronha and Atol da Rocas (Rodriguez-Ramirez,et al, 2008.)
3	Project GOLFINHO ROTADOR		Research on the spinner dolphin, provision of visitor information on the species, advice for conservation policies and efforts towards achieving sustainability for human activities at Fernando de Noronha.
4	Project TAMAR		Research and protection of nesting marine turtle populations on Fernando de Noronha. Maintenance of a visitor center with facilities for environment-related lectures and events used by several other institutions on a regular basis.

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	.	Development of a trust fund to finance the long-term management of the property.	
2	.	Development of a World Heritage interpretation program to make residents and visitors aware of its meaning and benefits	

REFERENCES

№	References
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2	De Freitas Prazeres, Martina. 2011. Biomarcadores de Exposicao ao Zinco em Amphistegina lessonii (Amphisteginidae, Forminifera) do Arquipélago de Fernando de Noronha, PE, Brasil.. Dissertation, Federal University of Rio Grande.
3	IBAMA, 2006. Resumo Executivo, Plano de Manejo, APA Fernando de Noronoha-Rocas-Sao Pedro e Sao Paulo
4	ICMBio, 2007. Plano de Manejo para a Reserva Biológica do Atol das Rocas. http://www.icmbio.gov.br/portal/images/stories/imgs-unidade…
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11	Rodriguez-Ramirez, et all. 2008. Status of Coral Reefs of the World, 2008. http://www.docentes.unal.edu.co/sezeas/docs/Rodriguez-Ramir…
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